

# SERIES 08-80



## Precision Snap Disc Thermostats High Temperature Probe Type

8.20.11

### FEATURES

- UL Component Recognized
- CSA Certified
- CE Compliant
- 100% Factory Tested
- Snap-Action Switching
- Hermetically Sealed
- Shock and Vibration Resistant
- Tamper-Proof, Preset Temperature
- Calibrated Settings from 240 to 500°F (116 to 260°C)



### APPLICATIONS

- Commercial Cooking Equipment
- Air Compressors
- Diesel Engine Coolant and Lubricant
- Film Processing
- Refrigeration Compressors
- Plastics Processing
- Hydraulic Systems
- Medical and Dental Equipment

### DESCRIPTION

These high temperature probe-type thermostats are designed specifically for applications where high temperature exposure, hermeticity and vibration resistance are required. A snap-acting, bimetal disc, mounted in the tip of the probe, provides fast thermal response and rapid, positive contact action when the preset temperature is reached.

The probes are of all welded, stainless steel construction with glass to metal seals to ensure hermeticity. Switch design and construction provide high vibration and shock resistance sufficient to meet MIL-STD-202, Method 204, Condition D. High contact force and the excellent wiping action of the contacts combine to make the probe suitable for light loads of 100 milliamperes or less.

### TEST SAMPLES

Operating samples generally can be supplied for application tests. A completed Fenwal Snap-Disc Application Data form, available from Fenwal or your local Fenwal sales representative, is required to select and produce an operating sample.

Thermocouple samples often prove more helpful and accurate in determining actual set point temperatures for operating thermostats. Be sure to specify iron-constantan or copper-constantan thermocouple, whichever is compatible with your equipment.

### SPECIFICATIONS

Temperature Range	Tolerances		Differential (Nominals)	Electrical Rating* (100,000 Cycles)
	Open	Close		
240 to 350°F (116 to +177°C)	± 10°F (±6°C)	± 8°F (±4.5°C)	30°F (17°C)	3A Resistive @120/240 VAC 240 VA Pilot Duty 120/240 VAC 3A Resistive @ 30VDC
351 to 400°F (178 to +204°C)	± 18°F (±10°C)	± 15°F (±8°C)	45°F (25°C)	
401 to 450°F (205 to +232°C)	± 20°F (±11°C)	± 18°F (±10°C)	60°F (33°C)	
451 to 500°F (233 to +260°C)	± 25°F (±14°C)	± 20°F (±11°C)	50°F (30°C)	

\* and units rated for AC operation only.

**NOTE:** Differences in temperature checking procedures and equipment between those of the manufacturer and the user can result in temperature variances of up to 2°F (1°C) or 1% of the setting, whichever is greater.

### PERFORMANCE

#### Switch Action:

SPST open or close on temperature rise.

**Dielectric Strength:** 1500VAC, terminals to case.

**Insulation Resistance:** 100 Megohms at 500VDC.

#### Vibration:

Exceeds MIL-STD-202, Method 204, Condition D;  
20 G, 10-5000 Hz.

**Thermal Shock:** MIL-STD-202, Method 107.

#### Mechanical Shock:

MIL-STD-202, Method 213; 100G, 10 ms.

**Working Pressure:** 600 PSI up to 550°F (288°C).

**Ambient Range:** -50 to +600°F (-45 to +315°C).

### MATERIALS

**Body and Tube:** 300 Series Stainless Steel

**Seal:** All welded construction with glass to metal seals.

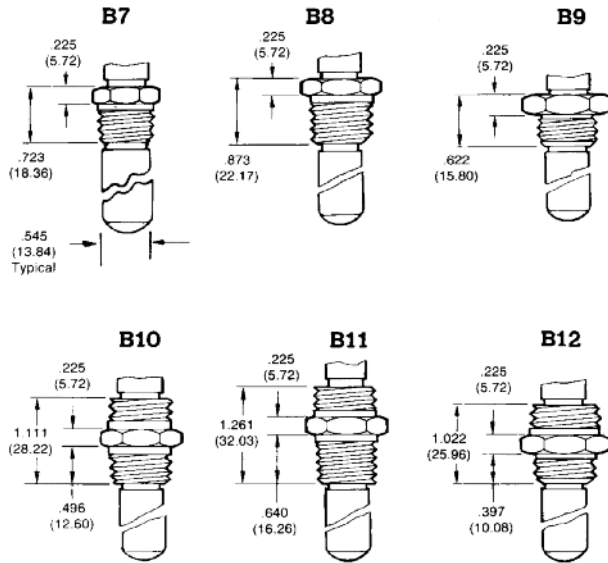
**Headfill:** Black epoxy.

**Contacts:** Fine Silver.

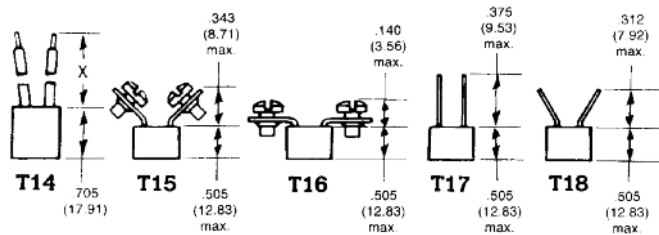
*Specifications subject to change without notice.*

U.L. File No. E18974, Guide XAPA2  
Recognized under the Component Program of Underwriters Laboratories, Inc.   
C.S.A. File No. LR7378-111 (Class 4823 02)   
Certified by BG Technologies

## MOUNTING (See Table 1)



## TERMINATIONS (See Table 1)



**Note:** Dimensions shown in parentheses are in millimeters.

## TABLE 1

### MOUNTING CONFIGURATIONS STANDARD THREADS

- B7 - 3/8-18PTF, SAE short, 11/16 in. hex
- B8 - 1/2-14PTF, SAE short, 7/8 in. hex
- B9 - 3/4-16UNF3A, 1 in. hex

### COUPLING HEAD

- B10 - 3/8-18PTF, SAE short x 1/2-14NPSM, 7/8 in. hex
- B11 - 1/2-14PTF, SAE short x 1/2-14NPSM, 7/8 in. hex
- B12 - 3/4-16UNF3A x 1/2-14NPSM, 1 in. hex

### TERMINATIONS AND POSITIONS

- T14 - Lead wires
- \* T15 - 8-32 screw terminals, 45° offset
- \* T16 - 8-32 screw terminals, 90° offset
- T17 - 1/4 in. Quick Connects, parallel vertical
- T18 - 1/4 in. Quick Connects, parallel, 30° offset
- \* Available only in B7, B8, and B9 configurations

### LEAD WIRES (specify length)

- L1 - No Lead Wires
- L3 - 200°C TFE, 18 AWG, 600V insulation
- L4 - 250°C TGGT, 18 AWG, 600V insulation

### TUBE LENGTHS

- P1 - 9/16 in. (14 mm)
- P2 - 1 in. (25 mm)

## HOW TO ORDER

Based on the listed specifications, an eleven (11) digit catalog number will be assigned by the factory. All future communications with Fenwal should reference this number.

To order:

1. Specify Series 08-80.
2. Specify opening and closing temperatures in degrees Fahrenheit or Celsius with tolerance, and whether the switch should open or close on temperature rise.
3. Specify mounting configuration, terminations, lead wire type (if applicable), and tube length by selecting one code number from each category in Table 1.

EXAMPLE: Series 08-80 open at 390°F ± 18°F, close at 355°F ± 15°F; B8, T17, L1, P2.



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